

AUTISM SPECTRUM DISORDER

Ms. Anupama K* | Dr. J Rukumani**

*Research Scholar, Himalayan University, Itanagar, Arunachal Pradesh, India.

**Research Supervisor, Himalayan University, Itanagar, Arunachal Pradesh, India.

DOI: <http://doi.org/10.47211/idcij.2022.v09i04.011>**ABSTRACT**

Autism is a spectrum disorder; each person with autism has a distinct set of strengths and challenges. The ways in which people with autism learn, think and problem-solve can range from highly skilled to severely challenged. The autism spectrum syndrome manifests itself in many ways; we can mention the following observable symptoms in the child's behavior. Insurance mandates requiring commercial plans to cover services for ASD along with improved awareness have likely contributed to the increase in ASD prevalence estimates as well as the increased diagnosis of milder cases of ASD in the US. While there was only a modest increase in prevalence immediately after the mandates, there have been additional increases later as health care professionals better understood the regulatory and reimbursement process.

Key words: Autism, disorder, autism challenges.

ABOUT AUTHORS:

Author, Ms. Anupama K is a Ph.D. Scholar at Himalayan University, Itanagar, Arunachal Pradesh, India.



Author, Dr. J Rukumani is Research Supervisor in Himalayan University, Itanagar, Arunachal Pradesh, India. She has effective administrative and leadership skills.

INTRODUCTION

Autism spectrum disorder, the name adopted in 2013, is a developmental disorder characterized by persistent problems in social communication and interaction, along with restricted and repetitive patterns of behavior, interests or activities. (American Psychiatric Association. 2013)

We know that there is not one autism but many subtypes, most influenced by a combination of genetic and environmental factors. Because autism is a spectrum disorder, each person with autism has a distinct set of strengths and challenges. The ways in which people with autism learn, think and problem-solve can range from highly skilled to severely challenged. Some people with ASD may require significant support in their daily lives, while others may need less support and, in some cases, live entirely independently.

Several factors may influence the development of autism, and it is often accompanied by sensory sensitivities and medical issues such as gastrointestinal (GI) disorders, seizures or sleep disorders, as well as mental health challenges such as anxiety, depression and attention issues.(2)

Autism spectrum disorder (ASD) is a complex neurodevelopmental disorder generally manifesting in the first few years of life and tending to persist into adolescence and adulthood. It is characterized by deficits in communication and social interaction and restricted, repetitive patterns of behavior, interests, and activities. It is a disorder with multifactorial etiology.

“a developmental disability significantly affecting verbal and nonverbal communication and social interaction, usually evident before age 3 that adversely affects a child’s educational performance. Other characteristics often associated with ASD are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. The term does not apply if a child’s educational performance is adversely affected because the child has an emotional disturbance”

Autism, a member of the pervasive developmental disorders (PDDs), has been increasing dramatically since its description by Leo Kanner in 1943. First estimated to occur in 4 to 5 per 10,000 children, the incidence of autism is now 1 per 110 in the United States, and 1 per 64 in the United Kingdom, with similar incidences throughout the world. Searching information from 1943 to the present in PubMed and Ovid Medline databases, this review summarizes results that correlate the timing of changes in incidence with environmental changes. Autism could result from more than one cause, with different manifestations in different individuals that share common symptoms. Helen V. Ratajczak

Symptoms

Symptoms of Autism

The autism spectrum syndrome manifests itself in many ways; we can mention the following observable symptoms in the child's behavior [7]:

- He will always seek to isolate himself from the people around him.
- He will not have a conversation with children in his age and, worse still, it will cost him too much to make friends and if he does he have difficulties trying to keep friendships.
- They present difficulties to interpret the emotional situations of the people around them, as well as their feelings. The child with autism may have difficulties to understand facial expressions, gestures and different tones of voice. Additionally, a symptom of autism is that these people do not focus their attention on the face of others and, therefore, are not able to see and learn the appropriate behavioral patterns.
- They have difficulties in verbal and non-verbal communication. Some individuals fail to develop any kind of language.
- Another symptom of autism in children is that they do not share enough with their parents and they will not look for comfort in them, they will not show emotional feedback and they will not share much time with other people.
- Sometimes, the autistic child calls himself in the third person, by his own name, instead in the first person with "me" or "my", this represents an incapacity for self-recognition.

The behavior in the child with autism is of the utmost importance because he will seek to carry out repetitive activities that involve a routine, and frequently presents a limited record of behaviors. An example is that they could align all the toys over and over again, but without playing voluntarily and freely where they display their creativity [7].

It can be noticed that its behavior can vary easily; it is also very sensitive to certain noises and will have periods of hyperactivity. It is essential that parents know what routines the child likes to follow and if parents think to modify or change, it is advisable that the change is not abrupt because this can cause an outbreak of desperation or anger [8].

The Three Main Symptoms According to Classifications of Mental Illnesses ICD-10 And DSM-IV Are [9]:

1. A violation of social relationships.
2. Speech and language disorders, and
3. A stereotyped, repetitive repertoire of actions and interests.

The Violation of Social Relationships

- Inability to manage their social contacts through non-verbal behavior (social smile, mimic, eye contact)
- Inability to establish relationships with peers (strong lack of interest in peers, lack of friendship)
- Non-sharing of feelings with others (does not mention her or his feelings to others)
- Lack of social-emotional attachment to others (inappropriate behavior in social situations, lack of emotional responses, such as comfort, looks as if they are using others as objects)

Violations of Speech and Language

Speech is missing or incomprehensible to others

- Lack of compensation of verbal speech through mimic or gestures, lack of spontaneous imitation of the actions of others
- Stereotypical, repetitive actions, as well as echolalia, speaking of thoughts aloud. Repetitive, Stereotypical Actions are
- Stereotypical, unusual actions or narrowly restricted special interests (rituals, fixed observation of moving objects)
- Stereotypical and repetitive actions (rotation of the fingers in front of the eyes, rocking on a chair, bouncing)
- Occupation with parts of objects or non-functional elements of objects (such as wheelchairs, doll eyes) or unusual interest in aspects of the senses: fixation to a certain smell, taste, touch

EPIDEMIOLOGY

The World Health Organization (WHO) estimates the international prevalence of ASD at 0.76%; however, this only accounts for approximately 16% of the global child population (**Baxter AJ 2005**). The Centers for Disease Control and Prevention (CDC) estimates about 1.68% of United States (US) children aged 8 years (or 1 in 59 children) are diagnosed with ASD (**Palinkas LA 2019**). In the US, parent-reported ASD diagnoses in 2016 averaged slightly higher at 2.5%. The prevalence of ASD in the US more than doubled between 2000–2002 and 2010–2012 according to Autism and Developmental Disabilities Monitoring Network (ADDN) estimates. Although it may be too early to comment on trends, in the US, the prevalence of ASD has appeared to stabilize with no statistically significant increase from 2014 to 2016. Changing diagnostic criteria may impact prevalence and the full impact of the DSM-5 diagnostic criteria has yet to be seen. (Xu G 2014-2016)

Insurance mandates requiring commercial plans to cover services for ASD along with improved awareness have likely contributed to the increase in ASD prevalence estimates as well as the increased diagnosis of milder cases of ASD in the US. While there was only a modest increase in prevalence immediately after the mandates, there have been additional increases later as health care professionals better understood the regulatory and reimbursement process. The increase in prevalence may also be due to changes in reporting practices. One study in Denmark found the majority of increase in ASD prevalence from 1980–1991 was based on changes of diagnostic criteria and inclusion of outpatient data, rather than a true increase in ASD prevalence (**Hansen SN 2015**).

ASD occurs in all racial, ethnic, and socioeconomic groups, but its diagnosis is far from uniform across these groups. Caucasian children are consistently identified with ASD more often than black or Hispanic children. While the differences appear to be decreasing, the continued discrepancy may be due to stigma, lack of access to healthcare services, and a patient's primary language being one other than English.

ASD is more common in males but in a recent meta-analysis (**Loomes R 2015**), true male-to-female ratio is closer to 3:1 than the previously reported 4:1, though this study was not done using the DSM-5 criteria. This study also suggested that girls who meet criteria for ASD are at higher risk of not receiving a clinical diagnosis. The female autism phenotype may play a role in girls being misdiagnosed, diagnosed later, or overlooked. Not only are females less likely to present with overt symptoms, they are more likely to mask their social deficits through a process called "camouflaging", further hindering a timely diagnosis (**Volkmar F 2013**). Likewise, gender biases and stereotypes of ASD as a male disorder could also hamper diagnoses in girls (**Bargiela S 2016**).

What Are Patterns of Behavior With Autism?

Children with ASD also act in ways that seem unusual or have interests that aren't typical, including:

- Repetitive behaviors like hand-flapping, rocking, jumping, or twirling
- Constant moving (pacing) and "hyper" behavior
- Fixations on certain activities or objects
- Specific routines or rituals (and getting upset when a routine is changed, even slightly)
- Extreme sensitivity to touch, light, and sound
- Not taking part in "make-believe" play or imitating others' behaviors
- Fussy eating habits
- Lack of coordination, clumsiness
- Impulsiveness (acting without thinking)
- Aggressive behavior, both with self and others
- Short attention span

Causes

Autism spectrum disorder has no single known cause. Given the complexity of the disorder, and the fact that symptoms and severity vary, there are probably many causes. Both genetics and environment may play a role.

- **Genetics.** Several different genes appear to be involved in autism spectrum disorder. For some children, autism spectrum disorder can be associated with a genetic disorder, such as Rett syndrome or fragile X syndrome. For other children, genetic changes (mutations) may increase the risk of autism spectrum disorder. Still other genes may affect brain development or the way that brain cells communicate, or they may determine the severity of symptoms. Some genetic mutations seem to be inherited, while others occur spontaneously.
- **Environmental factors.** Researchers are currently exploring whether factors such as viral infections, medications or complications during pregnancy, or air pollutants play a role in triggering autism spectrum disorder.

Diagnosis of Autism

There is no certain medical or lab test available to see the signs for Autism spectrum disorder. However, there is a way to find out if a child is suffering from ASD or not. Doctors do so by observing the behavior of the children and checking any signs of developmental delays. Parents who see symptoms like language delay or delay in social development, avoiding eye contact, restricted social interactions, lack of responsiveness, etc. should get their children diagnosed by a specialist.

The main challenge in the diagnosis of ASD is that the symptoms and their severity vary from one child to another. Studies have also shown that it is more difficult to observe ASD symptoms in girl child, called as camouflage effect. Some individuals can also go to adulthood without being diagnosed. An ASD specialist can however perform the diagnosis on the basis of following:

Certain tests to check the hearing, speech, language and other development in children can hint about autistic disorder in children. Such children suffer from sensory issues as well.

Children who might be suffering from ASD will find it hard to even make an eye contact with others, let alone have a conversation with others. Social interactions, communication skills and public behavior if observed carefully can tell a lot about autism.

Genetic testing can help identify a genetic disorder in children such as Rett syndrome or fragile X syndrome that can be a cause for autism.

Observe cognitive level and other life skills of the child like eating habits, how he/ she brushes teeth, dressing skills, etc. and on the basis of these observations determine the presence and severity of ASD.

REFERENCES

1. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing. <https://libguides.cccneb.edu/autism>
2. Nader Al-Dewik ^{1 2 3}, Rana Al-Jurf ⁴, Meghan Styles ⁵, Sona Tahtamouni ⁶, Dalal Alsharshani ⁷, Mohammed Alsharshani ⁸, Amal I Ahmad ⁹, Azhar Khattab ⁹, Hilal Al Rifai ¹⁰, M Walid Qoronfleh 'Overview and Introduction to Autism Spectrum Disorder (ASD), 2020;24:3-42. doi: 10.1007/978-3-030-30402-7_1.
3. <https://www.webmd.com/brain/autism/symptoms-of-autism>
4. http://www.naset.org/fileadmin/user_upload/Autism_Series/INTRODUCTION_TO_AUTISM_SPECTRUM_DISORDER.pdf
5. Elen V. Ratajczak, February 2011 Journal of Immunotoxicology
DOI:10.3109/1547691X.2010.545086 An Objective Measure of Autism
6. Baxter AJ, Brugha TS, Erskine HE, et al. The epidemiology and global burden of autism spectrum disorders. *Psychol Med* 2015;45:601-13. 10.1017/S003329171400172X [PubMed] [CrossRef] [Google Scholar]
7. Palinkas LA, Mendon SJ, Hamilton AB. Annual review of public health innovations in mixed methods evaluations. *Annu Rev Public Heal* 2019;40:423-42. 10.1146/annurev-publhealth-040218-044215 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
8. Xu G, Strathearn L, Liu B, et al. Prevalence of autism spectrum disorder among US children and adolescents, 2014-2016. *JAMA* 2018;319:81. 10.1001/jama.2017.17812 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
9. Hansen SN, Schendel DE, Parner ET. Explaining the increase in the prevalence of autism spectrum disorders: the proportion attributable to changes in reporting practices. *JAMA Pediatr* 2015;169:56-62. 10.1001/jamapediatrics.2014.1893 [PubMed] [CrossRef] [Google Scholar]
10. Loomes R, Hull L, Mandy WPL. What is the male-to-female ratio in autism spectrum disorder? A systematic review and meta-analysis. *J Am Acad Child Adolesc Psychiatry* 2017;56:466-74. 10.1016/j.jaac.2017.03.013 [PubMed] [CrossRef] [Google Scholar]
11. Volkmar F, Siegel M, Woodbury-Smith M, et al. Practice parameter for the assessment and treatment of children and adolescents with autism spectrum disorder. *J Am Acad Child Adolesc Psychiatry* 2014;53:237-57. 10.1016/j.jaac.2013.10.013 [PubMed] [CrossRef] [Google Scholar]
12. Bargiela S, Steward R, Mandy W. The experiences of late-diagnosed women with autism spectrum conditions: an investigation of the female autism phenotype. *J Autism Dev Disord* 2016;46:3281-94. 10.1007/s10803-016-2872-8 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
13. <https://www.mayoclinic.org/diseases-conditions/autism-spectrum-disorder/symptoms-causes/syc-20352928>
14. https://www.iiahp.com/autism-treatment/?gclid=CjwKCAjwLqOXBhBqEiwA-hhitBmWH-gEOiRtpVEgnLI5xpr_9kYc0AT6qAI_Tji41ZfGdB6WxxYcxoCd-cQAvD_BwE